

I claim:

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1. A method comprising:

providing a moldable sheath with sufficient moldability to at least temporarily retain a specific shape imparted to it when implanted in a body cavity; implanting said sheath within a body cavity; molding said implanted sheath to said specific shape, which specific shape is held without continued assistance of a shaping tool; and utilizing said implanted sheath for a medical procedure.

2. An apparatus comprising:


a moldable sheath with sufficient moldability at body temperatures to at least temporarily retain a specific shape imparted to it; and a lumen defined in said moldable sheath.

3. The apparatus of claim 2 further comprising a shaping tool for disposition in said lumen of said implanted sheath to impart said specific shape to said sheath.

4. The apparatus of claim 3 where said shaping tool is separate from said sheath.

1 5. The apparatus of claim 2 where said shaping tool is incorporated within
2 said sheath.

1 6. The apparatus of claim 2 further comprising a sealing valve coupled to
2 said sheath to seal said lumen.

1 7. The apparatus of claim 2 further comprising a diagnostic or therapeutic
2 device coupled to said sheath. 

1 8. The apparatus of claim 2 where said sheath has at least one portion with a
2 stiffness different than remaining portions of said sheath.

1 9. The apparatus of claim 2 where said sheath has at least one portion with a
2 moldability different than remaining portions of said sheath.

1 10. The apparatus of claim 2 where said sheath is deployed in a body cavity
2 and has at least one portion with a moldability which can be altered at the time of
3 implantation in said body cavity.

1 11 The apparatus of claim 10 where said at least one portion has its
2 moldability altered before said sheath is implanted into said body cavity.

1 12. The apparatus of claim 10 where said at least one portion has its
2 moldability altered after said sheath is implanted into said body cavity.

1 13. A method comprising:
2 providing a moldable sheath capable of at least temporarily retaining a specific
3 shape imparted to it when implanted in a body cavity;
4 implanting said sheath within a body cavity;
5 molding said implanted sheath to said specific shape while within said body
6 cavity, which specific shape is held without continued assistance of a shaping tool; and
7 utilizing said implanted sheath for a medical procedure within said body cavity
8 while said sheath is in said specific shape.

1 14. The method of claim 13 where molding said implanted sheath to a specific
2 shape comprising applying a shaping tool to said sheath to induce said sheath to
3 assume said specific shape.

1 15. The method of claim 13 further comprising removing a shaping tool from
2 said sheath when said sheath is characterized by a sufficient moldability so that removal
3 of said shaping tool does not result in any substantial displacement of said sheath from
4 said specific shape.

1 16. The method of claim 14 where applying a shaping tool to said sheath
2 comprises telescopically disposing said shaping tool within a lumen in said sheath.

1 17. The method of claim 14 where applying a shaping tool to said sheath
2 comprises manipulating said shaping tool to steer said sheath.

1 18. The method of claim 14 where applying a shaping tool to said sheath
2 comprises disposing said shaping tool exteriorly to said sheath and imposing a shaping
3 force thereon.

1 19. The method of claim 13 where utilizing said implanted sheath for a
2 medical procedure comprises disposing a medical instrument in said body cavity.

1 20. The method of claim 13 where utilizing said implanted sheath for a
2 medical procedure comprises performing a diagnostic procedure within said body
3 cavity.

1 21. The method of claim 13 where utilizing said implanted sheath for a
2 medical procedure comprises performing a therapeutic procedure within said body
3 cavity.

1 22. The method of claim 13 where utilizing said implanted sheath for a
2 medical procedure comprises disposing a cardiac lead in the coronary sinus of a human
3 heart.

1 23. The method of claim 13 wherein said sheath has a moldability and further
2 comprising changing said moldability of at least a portion of said sheath.

1 24. The method of claim 23 where providing a moldable sheath comprises
2 providing a sheath having a moldability dependant on temperature and where changing
3 said moldability of said sheath while in said body cavity comprises exposing at least a
4 portion of said sheath to a body cavity temperature elevated above ambient
5 temperature.

1 25. The method of claim 23 where providing a moldable sheath comprises
2 providing a sheath having a moldability dependant on moisture and where changing
3 said moldability of said sheath while in said body cavity comprises exposing at least a
4 portion of said sheath to moisture.

1 26. The method of claim 23 where changing said moldability of said sheath
2 comprises causing a change of said moldability of said sheath by treating at least a
3 portion of said sheath exterior to said body cavity prior to implanting.

1 27. The method of claim 26 where treating said sheath exterior to said body
2 cavity prior to implanting to change its moldability comprises exposing at least a portion
3 of said sheath to radiation.

1 28. The method of claim 26 where treating said sheath exterior to said body
2 cavity prior to implanting to change its moldability comprises exposing at least a portion
3 of said sheath to a chemical treatment.

1 29. An apparatus comprising:
2 a moldable sheath capable of at least temporarily retaining a specific shape
3 imparted to it; and
4 a shaping tool arranged and configured to be applied to said implanted sheath to
5 impart said specific shape to said sheath while within said body cavity, which specific
6 shape is held without continued assistance of said shaping tool.

1 30. The apparatus of claim 29 where said sheath is characterized by a
2 sufficient moldability so that removal of said shaping tool does not result in any
3 substantial displacement of said sheath from said specific shape.

1 31. The apparatus of claim 29 where said sheath has a lumen and where said
2 shaping tool applied to said sheath comprises an elongate shaping tool which is
3 telescopically disposed within said lumen in said sheath.

1 32. The apparatus of claim 29 where said shaping tool applied to said sheath
2 comprises a shaping tool applied exteriorly to said sheath and imposing a shaping force
3 thereon.

1 33. The apparatus of claim 29 further comprising a medical instrument
2 disposed into said body cavity through said sheath.

1 34. The apparatus of claim 29 where medical instrument comprises a
2 diagnostic instrument.

1 35. The apparatus of claim 29 where said medical instrument comprises a
2 therapeutic instrument.

1 36. The apparatus of claim 29 where said medical instrument comprises a
2 cardiac lead for disposition within the coronary sinus of a human heart.

1 37. The apparatus of claim 29 where said moldable sheath has at least a
2 portion of changed moldability relative to remaining portions of said sheath.

1 38. The apparatus of claim 37 where said portion which changes its
2 moldability while in said body cavity comprises at least a portion of said sheath having a

3 moldability dependant on temperature in which said moldability of said sheath is
4 changed while in said body cavity and exposed to a body cavity temperature elevated
5 above ambient temperature.

1 39. The apparatus of claim 38 where said portion which changes its memory
2 shape while in said body cavity comprises at least a portion having a moldability
3 dependant on moisture in which said moldability of said sheath is changed while in said
4 body cavity and exposed to moisture.

1 40. The apparatus of claim 37 where said portion of changed moldability has
2 its moldability changed by treating at least a portion of said sheath exterior to said body
3 cavity prior to implanting.

1 41. The apparatus of claim 40 where said portion of changed moldability has
2 its moldability changed by exposing at least a portion of said sheath to radiation.

1 42. The apparatus of claim 40 where said portion of changed moldability has
2 its moldability changed by exposing at least a portion of said sheath to a chemical
3 treatment.

1 43. The apparatus of claim 29 further comprising a reinforcement selectively
2 disposed on or in said sheath so that a reinforced portion of said sheath has its stiffness
3 increased relative to remaining portions of said sheath.

1 44. The apparatus of claim 29 further comprising a reinforcement selectively
2 disposed on or in said sheath so that a reinforced portion of said sheath has its ability to
3 retain a specific shape enhanced relative to remaining portions of said sheath.

1 45. The apparatus of claim 44 where said reinforcement comprises wires,
2 fibers or braid disposed on or on said sheath.

1 46. The apparatus of claim 43 where said reinforcement comprises a braided
2 reinforcement on or in said sheath.

1 47. The apparatus of claim 43 where said reinforcement comprises fibers
2 disposed on or in said sheath to provide kink resistance.

1 48. The apparatus of claim 43 where said reinforcement comprises at least
2 one layer of material at least partially concentrically disposed on or in said sheath.

1 49. The apparatus of claim 48 where said at least one layer of material at
2 least partially concentrically disposed on or in said sheath comprises at least one
3 cylindrical layer telescopically disposed on or in said sheath.

1 50. The apparatus of claim 48 where said sheath has a wall with a
2 predetermined thickness and where said at least one layer of material at least partially
3 concentrically disposed on or in said sheath comprises a thickening of said sheath wall.

1 51. The apparatus of claim 48 where said one layer of material has a
2 moldability different than said sheath.

1 52. The apparatus of claim 48 where said one layer of material is not
2 moldable like said sheath.

1 53. The apparatus of claim 29 where said moldable sheath has a tip portion
2 and where said tip portion is substantially soft and compliant without appreciable
3 moldability.

1 54. The apparatus of claim 29 where said moldable sheath is splittable,
2 tearable, slittable or peelable.

1 55. The apparatus of claim 29 where said moldable sheath is preshaped
2 according to its intended application within said body cavity.

1 56. The apparatus of claim 29 where said sheath has a proximal end and
2 further comprising a sealing valve disposed on said proximal end.

1 57. The apparatus of claim 56 where said sealing valve is splittable, tearable,
2 slittable or peelable.

1 58. The apparatus of claim 56 where said sealing valve is integral with said
2 sheath.

1 59. The apparatus of claim 56 where said sealing valve is separate from said
2 sheath.

1 60. The apparatus of claim 29 further comprising at least one wire disposed in
2 said sheath and usable for deflecting and positioning said sheath.

1 61. The apparatus of claim 29 further comprising at least one wire disposed in
2 said sheath for providing an electrical conductor therein.

1 62. The apparatus of claim 61 where said sheath has a distal end and further
2 comprising a diagnostic or therapeutic device at or near said distal end and coupled to
3 said conductor.

1 63. The apparatus of claim 62 where said diagnostic or therapeutic device
2 comprises an ultrasound imager.

1 64. The apparatus of claim 29 further comprising a lumen defined in said
2 sheath and at least one inflatable balloon disposed on said sheath coupled to said
3 balloon.

1 65. The apparatus of claim 64 where said balloon is removable from said
2 sheath.

1 66. The apparatus of claim 61 further comprising an electrode disposed on or
2 in said sheath and coupled to said conductor.

1 67. The apparatus of claim 29 further comprising at least one optic fiber
2 disposed in said sheath for providing an optical conductor therein.

1 68. The apparatus of claim 67 where said sheath has a distal end and further
2 comprising a photonic device disposed in or near said distal end of said sheath and
3 coupled to said optic fiber.

1 69. The apparatus of claim 29 further comprising a lumen defined in said
2 sheath and a vent communicated to said lumen so that fluid may be infused or
3 suctioned therethrough.

1 70. The apparatus of claim 29 where said shaping tool is steerable.

1 71. The apparatus of claim 29 where said shaping tool comprises a guidewire.

1 72. The apparatus of claim 29 where said shaping tool has a tip portion which
2 is substantially soft and compliant without substantial moldability rendering it
3 nontraumatic.

1 73. The apparatus of claim 29 where said shaping tool further comprises at
2 least one lumen defined therethrough and a vent communicated with said lumen.

1 74. The apparatus of claim 29 where said shaping tool further comprises a
2 lumen defined therethrough and at least one inflatable balloon communicated with said
3 lumen.

1 75. The apparatus of claim 29 where said shaping tool further comprises a
2 conductor disposed therethrough and an electrode coupled to said conductor for
3 sensing or delivery of energy from said electrode.

1 76. An apparatus comprising:
2 a peel-away sheath with sufficient flexibility to be selectively guideable; and
3 a steering or guiding tool to impart a selected shape to said sheath.

1 77. The apparatus of claim 76 where said peel-away sheath is nonmoldable.

1 78. The apparatus of claim 76 further comprising a proximal sealing valve
2 coupled to said sheath.

1 79. The apparatus of claim 76 further comprising a distal diagnostic or
2 therapeutic device coupled to said sheath.

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